



Proposed Amended Rule 1148.1

Oil and Gas Production Wells

Working Group Meeting #1

24th Street Elementary School, Los Angeles, CA

November 13, 2014

Agenda

- Introduction and Goals
- Background
 - Increased awareness of potential oil well environmental impacts
 - Process Description
 - Typical Emission Sources
 - Regulatory History
- Proposal Concepts
 - Scope and Approach
 - Sensitive Receptors
 - Proposed Action Levels
- Rule Development Schedule



Introduction and Goals

- Introductions
- Goals for Meeting
 - Present Potential Rule Concepts
 - Solicit Public Information and Suggestions



Background

Increased Awareness

- Fracturing or “Fracking” and other well stimulation
- SB4 - Pavley. Oil and gas: well stimulation
- SCAQMD Rule 1148.2
Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers
- EPA investigation / urban oil fields
- NRDC Study
Urban oil fields are in relative close proximity to the community



Background

Process Description

Oil and Gas Extraction

- Exploration
- Well development
- Production
- Site abandonment
- Ancillary
 - Maintenance
 - Spill Containment

Rule 1148.1 Scope

- Well Operation
- Oil and Gas Treatment
- Oil Storage and Sales
- Leak Detection and Repair
- Odor Mitigation

Rule 1148.1 covers well operation and operational maintenance



Background

Typical Emission Sources

- Well Cellars and Wellheads
- Workover Rig Operations
- Oil Water Separation
- Gas Plants and Treatment



Background

Typical Emission Sources (Cont.)



Well Cellars and Wellheads

- Well cellars are used for spill containment
- Accumulated oil in cellars and leaks from wellheads are potential sources of odors
- Existing requirements include removal of accumulation within specified timeframes or if measured concentrations exceed 250 ppmv



Background

Typical Emission Sources (Cont.)

Workover Rig Operations

- Used for oil and gas well maintenance and repair
- Typically smaller than drilling rigs
- Used to retrieve and replace the rod string or production tubing
- Operations known to contribute to odors when production tubing is retrieved while still wet

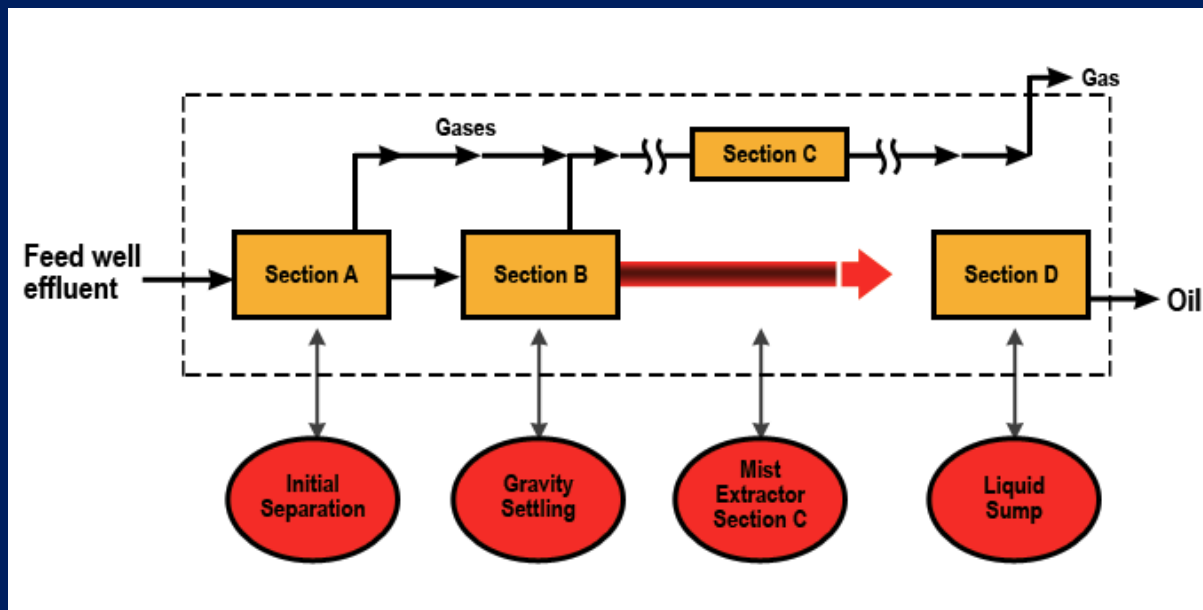


Background

Typical Emission Sources (Cont.)

Oil Water Separation

- Crude oil is processed in a series of vessels and tanks to separate and remove water and gas
- Other existing rules also apply:



- Rule 463 – Organic Liquid Storage
- Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants
- Rule 1176 – VOC Emissions from Wastewater Systems



Background

Typical Emission Sources (Cont.)

Gas Plants and Treatment

- Produced gas from wellheads is treated for sale or use or otherwise handled based on the type and composition of oil
- Treatment for Sale or Use
 - Condensable hydrocarbons are recovered using absorption, refrigeration or gas expansion processes
 - Water is typically removed by glycol dehydrators, which removes water through absorption
- Other Handling
 - Internal combustion engines (i.c. engines)
 - Turbines, microturbines for onsite electricity needs
 - Heaters, heater treaters
 - Boilers, steam generators
 - Flares



Background

Regulatory History

■ Rule 1148.1

- Adopted March 5, 2004, to reduce uncontrolled VOC and related emissions from well cellars and produced gas
- Identified additional best practices as requirements for wells located within 100 meters of a sensitive receptor

■ Rule 1148.2

- Adopted April 5, 2013, to gather air quality-related information on oil and gas well drilling, well completion, and well reworks, including fracturing or “fracking” activity
- Requires reporting to help assess impacts for potential subsequent rule making under Proposed Rule 1148.3

■ Odor Nuisance Potential

- Typically addressed through permitting and Rule 402 - Nuisance
- Concurrent reduction in odor potential through VOC emission control



Proposal Concepts

Scope and Approach

■ Scope

- Reduce the odor nuisance and potential exposure, especially near sensitive receptors
- Update rule language to promote clarity, consistency and enforceability

■ Approach

- Strengthen existing rule language
- Add odor prevention measures
- Control room / monitoring upgrades
- Tiered requirements, based on sensitive receptor proximity and historical odor potential
 - Include standard or enhanced work practices at lower action level
 - Require an approved plan or permit for higher action levels



Proposal Concepts

Sensitive Receptors

Align and Expand Coverage

- Harmonize definition of Sensitive Receptors with Rule 1148.2 - Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers
- Increase distance criteria for sensitive receptor proximity from 100 meters (323 feet) to 457 meters (1,500 feet, or ~ 5x)

Affected Wells and Facilities*

Distance From Sensitive Receptor**	No. of Wells	No. of Facilities
# Oil Wells within 100 m (323 ft.)	79	30
# Oil Wells between 100 m (323 ft.) and 457 m (1,500 ft.)	234	37
# Oil Wells within 457 m (1,500 ft.)	313	67

* As Reported per R1148.2; ** Per R1148.2 Definition



Proposal Concepts

Proposed Action Levels

Proposed Action Level	Description	Notes
1	Baseline	All wells and facilities
2	Within 1,500 feet of a Sensitive Receptor	Distance from well to boundary line property of sensitive receptor
3	<ul style="list-style-type: none"> ▪ Within 1,500 feet of a Sensitive Receptor ▪ One or More Confirmed Odor Complaints 	As Confirmed by Field Inspector
4	<ul style="list-style-type: none"> ▪ Within 1,500 feet of a Sensitive Receptor ▪ ≥ 5 Confirmed odors complaints in 12 months or odor nuisance NOV 	<ul style="list-style-type: none"> ▪ As Confirmed by Field Inspector ▪ Written Notification from District



Proposal Concepts

Action Level Considerations

Proposed Action Level	Description	Action Level Considerations
1	Baseline	<ul style="list-style-type: none"> ▪ Quicker cellar cleanout ▪ Working practices to minimize odors during maintenance and repair ▪ Additional monitoring or odor management
2	$\leq 1,500$ ft. of sensitive receptor	<ul style="list-style-type: none"> ▪ Quicker cellar cleanout ▪ Quicker repair times for leaks
3	<ul style="list-style-type: none"> ▪ $\leq 1,500$ ft. of sensitive receptor ▪ ≥ 1 Confirmed odor complaints 	<p><u>For Confirmed Odor Complaints</u></p> <ul style="list-style-type: none"> ▪ Specific cause analysis ▪ Corrective actions
4	<ul style="list-style-type: none"> ▪ $\leq 1,500$ ft. of Sensitive Receptor ▪ ≥ 5 Confirmed odors complaints in 12 months or odor nuisance NOV 	<ul style="list-style-type: none"> ▪ Odor Mitigation Plan ▪ Odor surveillance and monitoring during prescribed activities ▪ Additional working practices



Potential Rule Development Schedule

Milestone	Date
Working Group #1	November 13, 2014
Additional Working Group Meetings	TBD
Public Workshop	January 2015
Stationary Source Committee	February 20, 2015
Set Hearing	March 6, 2015
Public Hearing	April 3, 2015

Contact:

Dairo Moody
(909) 396-2333
dmoody@aqmd.gov

